5

BROADCAST SYSTEM

Field of the Invention

10 This invention relates to a broadcast system and, more particularly, to a broadcast system that can be applied to provide television broadcast signals with content derived from online multiplayer games, more particularly, but not exclusively, online multiplayer poker. The invention extends to a method for generating broadcast signals with content derived from online multiplayer games,

15 more particularly, but not exclusively, online multiplayer poker.

Background to the Invention

This invention will be described with particular reference to its application in

20 conjunction with a game of multiplayer poker. It is to be clearly understood, however, that the application of the invention is not limited to this particular game, but extends to include any other online multiplayer game such as, for example, multiplayer blackjack or multiplayer roulette.

25 The game of poker is widely played in many jurisdictions, particularly in the United States of America. A traditional game of poker is a multiplayer game, generally accommodating a minimum of 4 and a maximum of between 8 and 10 players.

30 The game of poker is played at land-based establishments as well as in an online environment. A general feature of such games is that a player may only participate in a poker game which has an unoccupied playing position, or seat. In

the online environment, this means that a would-be player may have to wait a considerable time before a suitable vacant seat becomes available, which causes frustration and which may cause player attrition.

5   Despite this disadvantage, online poker has rapidly increased in popularity on a global basis. In order to play poker online, a user is required to download a client software program and to install the client software program on an Internet-enabled computer workstation. The client software program allows the player to actively participate in the online poker game or to merely observe other players
10   who are actively participating in and playing the game.

As far as the applicant is aware, it is not possible to permit Internet users who have not installed the client software program to observe the playing of an online multiplayer poker game, thus limiting the exposure of the online multiplayer poker
15   to potential players thereof.

Object of the Invention

It is an object of this invention to provide a broadcast system and a method for
20   generating a broadcast signal that will, at least partially, alleviate the abovementioned difficulties and disadvantages.

Summary of the Invention

25   In accordance with this invention there is provided a broadcast system comprising:
an online multiplayer gaming system usable by a plurality of participating players to play at least one turn of an instance of a multiplayer game;
game play recording means for generating a game play record of events
30   occurring in the at least one turn of the instance of the multiplayer game;
a historical logfile capable of storing the generated game play record;

a replay means capable of retrieving the stored game play record from the historical logfile and generating therefrom a replay of the at least one turn of the multiplayer game, the replay being delayed relative to the original turn of the game by at least a predetermined time interval; and

5   a broadcast facility arranged to convert the replay into a signal for broadcast.

Further features of the invention provide for the online gaming system to be usable by a plurality of participating players to play a plurality of turns of a plurality of instances of the multiplayer game, for the game play recording means

10   to generate game play records corresponding to each turn of each instance of the multiplayer game and for the historical logfile to store all the game play records corresponding to each turn of each instance of the multiplayer game, for the replay means to retrieve the stored game play records from the historical logfile and to generate simultaneous replays of each one of the plurality of

15   instances of the multiplayer game, and for the broadcast facility to convert each one of the plurality of replays into a separate signal for broadcast, alternatively for the broadcasting facility to convert a selected one of the plurality of replays into a signal for broadcast.

20   Still further features of the invention provide for the multiplayer game to be multiplayer poker, for the game play record to include at least one of: an identification code that identifies the particular instance of the game of multiplayer poker; a time and date stamp indicating the commencement of the turn of the game of poker; an identity of each participating players in the turn of the game;

25   an opening credit balance for each participating player; an identification of a player who performs the role of a dealer; a size of each player wager made during the turn of the game; the hole cards dealt to each participating player; the community cards dealt during the turn of the game; the game play decisions of all the participating players; a closing credit balance for each player; and a time and

30   date stamp indicating the end of the turn of the game of poker.

Yet further features of the invention provide for the hole cards of each participating player to be invisible to the other participating players in each turn of the game and for the hole cards of every participating player to be visible in the replay of each turn of the game; and for the replay means to analyse the hole

5   cards of each participating player and the community cards that are dealt in a turn of the game to determine a probability of each participating player obtaining a favourable hand of poker and for the replay means to display the probabilities in the replay of the turn of the game.

10   There is also provided for the replay means to be an Internet-enabled computer workstation and for the broadcast facility to be a scan converter operatively linked to the computer workstation.

The invention extends to a method for generating broadcast signals comprising

15   the steps of:

      providing an online multiplayer gaming system usable by a plurality of participating players to play at least one turn of an instance of a multiplayer game;

      generating a game play record of events occurring in the at least one turn of the

20   instance of the multiplayer game;

      storing the generated game play record in a historical logfile;

      retrieving the stored game play record from the historical logfile and generating therefrom a replay of the at least one turn of the multiplayer game, the replay being delayed relative to the original turn of the game by at least a predetermined

25   time interval; and

      converting the replay into a signal for broadcast.

There is further provided for enabling use of the online gaming system by the plurality of participating player to play a plurality of turns of a plurality of instances

30   of the multiplayer game, for generating game play records corresponding to each turn of each instance of the multiplayer game and storing all the game play records corresponding to each turn of the each instance of the multiplayer game

in the historical logfile, for retrieving the stored game play records from the historical logfile and generating simultaneous replays of each one of the plurality of instances of the multiplayer game, and for converting each one of the plurality of replays into a separate signal for broadcast, alternatively converting a selected

5   one of the plurality of replays into a signal for broadcast.

There is still further provided for establishing the multiplayer game to be multiplayer poker, and for including in the game play record at least one of: an identification code that identifies the particular instance of the game of multiplayer

10   poker; a time and date stamp indicating the commencement of the turn of the game of poker; an identity of each participating players in the turn of the game; an opening credit balance for each participating player; an identification of a player who performs the role of a dealer; a size of each player wager made during the turn of the game; the hole cards dealt to each participating player; the

15   community cards dealt during the turn of the game; the game play decisions of all the participating players; a closing credit balance for each player; and a time and date stamp indicating the end of the turn of the game of poker.

There is yet further provided for rendering the hole cards of each participating

20   player to be invisible to the other participating players in each turn of the game and rendering the hole cards of every participating player to be visible in the replay of each turn of the game; and for analysing the hole cards of each participating player and the community cards that are dealt in a turn of the game and determining a probability of each participating player obtaining a favourable

25   hand of poker and displaying the probabilities in the replay of the turn of the game.

Brief Description of the Drawings

30   One embodiment of the invention is described below, by way of example only, and with reference to the accompanying drawings, in which:

Figure 1 is schematic representation of a broadcast system according to the invention; and

Figure 2 is a schematic representation of an online multiplayer poker system of
5   the broadcast system of Figure 1.

Detailed Description of the Invention

Referring to Figures 1 and 2, in which like features of the invention are indicated
10   by like numerals, a broadcast system is indicated generally by reference numeral
(1).

The broadcast system (1) includes an online poker system (2) that enables any number of players to participate in online games of multiplayer poker, a group of
15   four Internet-enabled broadcast terminals (3) each having a corresponding scan converter (4), and a broadcast control facility (5) of a type that is well known in the art.

Referring now specifically to Figure 2, the online poker system (2) includes a
20   gaming server (10), a portal web site (11) on the World Wide Web of the Internet, and a historical game logfile (12) in the form of a database. The portal web site (11) is accessible by a would-be poker player (not shown) through a user access facility (13) in the form of an Internet-enabled computer workstation having a display (14) and an associated pointing device (15) such as a mouse or,
25   alternatively, a touchpad. In this embodiment, the portal web site (11) is shown as having two computer workstations (13) logically connected thereto. It will be appreciated by those skilled in the art that such a portal web site (11) can be logically connected to any desired number of such computer workstations (13) simultaneously, which number is physically limited only by considerations of
30   processing power and Internet access bandwidth.

In order to participate in a game of multiplayer poker a would-be player is required to access the portal website (11), to download a client software program (not shown) and to install the downloaded client software program on the computer workstation (13). Once the client software program (not shown) has been installed, the would-be player is required to register and to establish a credit account on the gaming server (10). The gaming server (10) maintains a credit account for each registered player who wishes to play a game of online multiplayer poker through a respective computer workstation (13) logically connected to the portal website (11). In the illustrative embodiment, the gaming server (10) has two player credit accounts.

The gaming server (10) operates under control of a server stored program (not shown) that is capable of enabling a predetermined maximum number of players, say 8, to play an instance of the game of multiplayer poker. When the number of players reaches this predetermined maximum number, the server software program causes a further instance of the game to be initiated, the new instance also being capable of accommodating a further 8 players. In this way, the gaming server (10) is capable, under control of the server software program (not shown), to spawn as many separate instances of the game of multiplayer poker as required in order to accommodate a pool of players who desired to play the game, in groups of a maximum of 8. Each instance of the game spawned in this manner is treated as totally independent of the other instances.

The client software program (not shown) on the computer workstation (13) enables a player who desires to join the game of multiplayer poker to request participation in the game and, once admitted to an instance of the game, to place a wager on a turn of that instance of the game. Each participating player is presented with an identical graphical user interface (GUI) on his respective computer workstation (13). The GUI presents to the player a suitable display of a simulated poker game (not shown), with appropriate activatable icons that enable the player to make his own desired game play decisions and to monitor the

progress of the instance of the multiplayer game by viewing the game play decisions of the other participating players in the same instance of the game.

5   The server stored program (not shown) also provides a discrimination means (16) capable of determining whether any wager placed by any one of the participating players on the turn of the instance of the game of multiplayer poker is successful or unsuccessful. The server software program (not shown) also settles the wagers of the participating players after the completion of every turn of any instance of the game.

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Each computer workstation (13) is a conventional personal computer operating under a Windows XP operating system, which is well known and commercially available from the Microsoft Corporation of Redmond, Washington, USA. The gaming server (10) operates under a Windows NT operating system, which is

15   also a product of the Microsoft Corporation. The game of multiplayer poker, which is a zero-sum game, consists of the client software program (not shown) referred to, for convenience, as a client process that is executable on a computer workstation (13), and the corresponding server software program (not shown), or server process, that is executable on the gaming server (10). The server process

20   (not shown) generates one or more random events that affect the outcome of the game of multiplayer poker, such as the dealing of cards to participating players. The client process (not shown) obtains the result of the ransom events from the gaming server (10), across the communication network and displays the outcome of the game on the display monitor (14) in an intelligible manner by means of the

25   game simulation. .

In use, a player wishing to participate in the game of poker uses a computer workstation (13) to access the portal website (11). The player is presented with an icon (not shown) on the GUI on his computer workstation (13), which the

30   player can activate in order to request participation in the poker game. The player's request for participation is adjudicated and processed by the gaming server (10) in the following manner:

1. if all existing instances of the poker game have 8 participating players, the existing instances of the game are all fully occupied and the would-be player cannot be admitted to any instance of the game. The would-be player is notified of the situation and is placed on a waiting list of would-be players;

2. if any one of the existing instances of the poker game does have an empty seat, the would-be player is admitted to that instance of the game or, if previously on the waiting list, is removed therefrom and admitted to that instance of the game. An appropriate multiplayer poker GUI is presented to the newly-admitted player to allow him to play the game and to place wagers thereon;

3. a register of active participating players is updated to include the details of the newly-admitted player, together with data representative of the particular instance of the game to which he has been admitted;

4. when the waiting list of would-be players has grown sufficiently large, say 4 or 5 would-be players, the gaming server (10) spawns a new instance of the game to accommodate the would-be players in the waiting list, and the waiting list is flushed; and

5. the register of active participating players is updated to include the details of all the newly-admitted players in the newly-spawned instance of the game, together with data representative of the particular instance of the game to which the players have been admitted.

The client process (not shown) displays the game to each participating player as a simulated poker table around which the participating players are seated. The player wagers are represented by piles of chips appearing on the table surface, while dealt cards are represented either as face-up or facedown according to the

type of poker game being played. For example, in stud poker, a player's hole cards are rendered visible to the player and are rendered invisible to all other participating players on their respective computer workstations (13) until the showdown state of the stud poker game. The game play decisions of all the

5   participating players are visible in a scrollable text area adjacent the displayed simulated poker table.

Once the turn of the game has been completed, the discrimination means (16) determines which of the players is the winner of the turn of the game and the

10 gaming server (2) settles the wagers placed by the participating players on that turn of the instance of the game.

Any player is able to leave the instance of the poker game in which he is participating at any time upon completion of a turn of that instance of the game.

15 When a participating player leaves an instance of the poker game, the player's departure results in the online poker system (2) undertaking the following actions:

1. the display of the simulated poker table on the computer workstation is replaced by a different display according to the requirements of an

20   operator of the particular gaming server (10);

2. the departing player's details are removed from the register of active participating players; and

25. 3. the remaining instances of the game are analysed in order to collapse any sparsely populated instances of the game and to consolidate the participating players in these instances into a single more densely populated instance of the game.

30 During the course of each turn of the instance of the game of multiplayer poker, the gaming server (10) constructs a game play record that contains data relating

to all events that occurred during the turn of the game. The event data contained in a game play record includes:

- an identification code that identifies the particular instance of the game of multiplayer poker;
- a time and date stamp indicating the commencement of the turn of the game of poker;
- the identities of all the participating players, each of which can be a player's real name or an assumed name, and each player's position at the poker table;
- an opening credit balance for each player;
- the player who performs the role of a dealer;
- the size of each player wager made during the turn of the game;
- the hole cards dealt to each participating player;
- the community cards dealt during the turn of the game;
- the game play decisions of all the participating players, namely any one of ante, bet, blind bet, call, check, checkraise, fold or raise game play decisions, all of which terms are well known in the art and will not be explained in detail;
- a closing credit balance for each player; and
- a time and date stamp indicating the end of the turn of the game of poker.

When the turn of the instance of the game is completed and a winner has been decided and the player wagers have been settled, the gaming server (10) stores the game play record for that particular turn of the game away in the game logfile (12). It will be appreciated by those persons skilled in the art of the invention that each game play record thus comprises a historical record of the progress of a respective turn of the game of multiplayer poker.

Referring now to Figure 1, each one of the four broadcast terminals (3) executes an adapted version of the client software program (not shown) that a player is

required to download and to install on a computer workstation (13) of the online poker system (2). Each broadcast terminal (3) is able to access the historical game logfile (12) by means of a Web call to retrieve therefrom any game play record. The adapted version of the client software program (not shown) on any

5   broadcast terminal (3) utilises the retrieved game play record to generate, from the data contained therein, a video signal that is a replay of the turn of the instance of the game to which that game play record corresponds. Save for two aspects, the replay generated by a broadcast terminal (3) is the same image of the turn of the game that was originally presented to the participating players on

10   their respective computer workstations (13) while playing in that particular turn of the game. Firstly, in the replayed game, the hole cards of each participating player are visible instead of being hidden. Secondly, the replay image will be delayed, and cannot be generated by the broadcast terminal (3) until a predetermined period of time, say 10 minutes, has elapsed from the end time and

15   date stamp contained in the game play record. This restriction is present to ensure that it is not possible to access the game play record prior to termination of the turn of the instance of the poker game itself, thereby eliminating any possibility of fraud in the turn of the game.

20   The video signal produced by a broadcast terminal (3), which represents the replay of a turn of an instance of the poker game, is input to a scan converter (4), which converts the video signal into a television signal suitable for broadcast. The video replay signals produced by all the broadcast terminals (3) and corresponding scan converters (4) are made available, simultaneously, to a

25   broadcast control facility (5) where a broadcast director (not shown) may choose any one of the four video signals for broadcast by a television transmitter (6).

In use, an operator of the multiplayer poker system (2) designates four different instances of the multiplayer poker game for broadcast. The gaming server (10)

30   generates sequential game play records for sequential turns of the four designated instances of the game and stores the generated game play records in the historical game logfile (12) as described above. Each broadcast terminal (3)

and its associated scan converter (4) is allocated to retrieve sequential game play records from the historical game logfile (12) that relate to a different one of the four designated instances of the game and to generate a video replay of the allocated instance of the game. The four video replay signals thus generated are made available in the broadcast control facility (5), providing the broadcast director (not shown) with a choice of four simultaneous video signals from which any one can be selected for broadcast at a time. The broadcast director (not shown) can advantageously switch the television broadcast to a different instance of the game during periods of low excitement, in order to stimulate viewer interest.

It will be appreciated by those skilled in the art that the invention allows the progress of a game of online multiplayer poker to be viewed by a wider audience (that is, television viewers) that does not necessarily have access to an Internet-enabled computer workstation (13) with an installed client software program (not shown), making it easier to promote and to market the game of online multiplayer poker.

Numerous modifications to this embodiment are possible without departing from the scope of the invention. In particular, the broadcast system (1) may include a single broadcast terminal (3) and associated scan converter (4), together with a variant of the modified client software program that is arranged to generate replays of four different instances of the game simultaneously, allowing the broadcast director to select any one of the replays for conversion by the scan converter to a television broadcast signal.

Still further, the broadcast terminal (3) can analyse the cards dealt to any participating player, as contained in the game record, as well as each community card that is dealt, and calculate the probability of each participating player obtaining a favourable hand of poker. The calculated probabilities can be superimposed on the simulated replay and converted by the scan converter for broadcast.

Yet further, a commentary can be provided with the generated broadcast television signal. The commentary can be either an audio commentary which is generated in real time and is mixed with the output of the scan converter, or can

5   be a written commentary that can be displayed in a scrollable text window in the simulated replay of the poker game. The broadcast terminal can also accept text messages asynchronously from viewers of the broadcast signal and display these in the scrollable text window as part of the written commentary, or in a separate scrollable text window. The text messages must conform to the well-

10   known Short Message Service (SMS) standard that is a subset of the GSM mobile telecommunication standard that is well known in the art.

Additionally, in a variation of the preferred embodiment, the operator of the multiplayer poker system (2) may designate an entire online multi-table poker

15   tournament for broadcast. In this variation of the embodiment, the gaming server (10) generates sequential game play records of each instance of the game (i.e. of each virtual poker table in the tournament). A sufficient number of broadcast terminals (3) and scan converters (4) is provided to generate simultaneous video replay signals of each virtual poker table in the tournament, which are all made

20   available in the broadcast control facility (5). The broadcast director (not shown) can then produce television coverage of the online multi-table tournament with an ability to multiplex the television broadcast to include coverage of different virtual poker tables in response to the ebb and flow of the tournament, thereby maximising viewer interest.

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The invention therefore provides a broadcast system that permits online multiplayer games to be used as content for television broadcast signals.